

### **REMARKS/ARGUMENTS**

Claims 1, 15, 24, 32 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al (US 2003/0103185). Claims 2, 4-6, 8-10, 16, 18, 19, 25, 27, 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Admission, and further in view of Minako et al (JP 2000-258784). Claims 3, 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Admission and Minako, and further in view of Jung et al (US 2005/0030468). Claims 22, 23, 26, 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Admission, and further in view of Chung et al (US 2004/0012750). Claims 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Admission and Minako, and further in view of Nakahara et al (US 6,989,879).

#### **1. Rejection of Claims 1, 15, 24, 32 and 36:**

Claims 1, 15, 24, 32 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al for reasons of records, as cited in pages 2-3 in the above-identified Office action.

#### **Response:**

With regard to Claim 1, applicant believes that Kim et al do not disclose “the spacer wall having at least one liquid crystal injected opening and at least one spacer block positioned in the liquid crystal injected opening” which is disclosed in Claim 1 and Claim 10 of the present application. According to paragraph [0003] of Kim’s disclosure, Kim et al taught “The present invention relates to a liquid crystal display, and more particularly, to a liquid crystal display panel and method for fabricating the same by a liquid crystal dropping method.” Since Kim’s liquid crystal display is fabricated by a liquid crystal dropping method, the dummy column spacer 260 does not include any liquid crystal injected opening. On the contrary, according to paragraph [0023] of the present application, liquid crystal molecules are injected through the liquid crystal injected openings 44a or 44b into the space between the

glass substrate 32 and the silicon substrate 34 so as to form the liquid crystal layer 38.

Furthermore, according to paragraph [0060], paragraph [0069], FIG. 6 and FIG. 9 of Kim's disclosure, the dotted line type dummy column spacer 270 is positioned  
5 **inside or outside the dummy column spacer 260, not positioned in a liquid crystal injected opening of the dummy column spacer 260.** In contrast, Claim 1 of the present application teaches "at least one spacer block positioned in the liquid crystal injected opening". As a result, the spacer block of the present application is distinct from the dotted line type dummy column spacer 270.

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With regard to Claim 15 of the present application, applicant believes that Kim et al do not disclose "a spacer wall positioned on the second substrate and between the sealant and the active region for enclosing the active region". According to FIGs. 3, 5-6 of Kim's disclosure, Kim's liquid crystal flows through the opened portion 262  
15 toward the UV sealant 300. As a result, the liquid crystal is probability contacted and contaminated by the UV sealant 300 in Kim's disclosure.

With regard to Claim 24 and Claim 32 of the present application, applicant believes that Kim et al do not disclose "the spacer wall separates the liquid crystal  
20 layer from the sealant". As mentioned above, Kim's liquid crystal flows through the opened portion 262 toward the UV sealant 300, so Kim's dummy column spacer 260 does not separates the liquid crystal layer from the UV sealant 300.

Since Kim et al do not disclose all the limitations defined in Claim 1, 15, 24 or  
25 Claim 32, Claims 1, 15, 24 and 32 should be patentable in comparison with Kim's disclosure. Reconsideration of Claim 1, 15, 24 and 32 is respectfully requested. As Claim 36 is dependent upon Claim 1, it should be allowed if Claim 1 is allowed. Reconsideration of Claim 36 is respectfully requested.

30 **2. Rejection of Claims 2, 4-6, 8-10, 16, 18, 19, 25, 27, 28 and 33:**

Claims 2, 4-6, 8-10, 16, 18, 19, 25, 27, 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Admission, and further in view of Minako et al for reasons of records, as cited in pages 3-5 in the above-identified Office action.

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**Response:**

Examiner asserted that Claims 2, 4-6, 8-10, 16, 18, 19, 25, 27, 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of **Admission**, and further in view of Minako et al in the above-identified Office action.

10 However, Examiner did not point out the cited portion of the subject matter in Admission. Applicant asserts that the limitations disclosed in the Claim 1-10, 15-19, 22-28 and 31-36 are not taught by the prior art or the cited references. Applicant also asserts that there is no Admission recognized by the applicant to this new ground of rejection.

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With regard to Claim 2, Claim 6 and Claim 16 of the present application, neither Kim nor Minako discloses “a thin film layer **patterned** corresponding to the peripheral region and positioned **under** the spacer wall, wherein both the sealant and the spacer wall are located on the thin film layer”. The alignment layer 52a and the  
20 alignment layer 52b cover the entire upper substrate and the entire lower substrate respectively in Minako’s disclosure.

With regard to Claim 27 of the present application, neither Kim nor Minako discloses “the spacer wall **separates** the liquid crystal layer from the sealant”. Minako  
25 et al did not teach the spacer wall.

Accordingly, the applicant asserts that the claimed invention defined in Claims 2, 6, 16 and 27 are not obvious in comparison with the cited references by the one of ordinary skill in art. Therefore, Claims 2, 6, 16 and 27 should be patentable in  
30 comparison with the combination of Kim, Minako and the admission. Reconsideration

of Claims 2, 6, 16 and 27 is respectfully requested. Since Claims 8-10 and 28 are dependent upon Claim 6, they should be allowed if Claim 6 is allowed. Reconsideration of Claims 8-10 and 28 is respectfully requested.

5 In addition, the opening 16a of Minako's disclosure is an opening of the sealant 16, not the liquid crystal injected openings 44a or 44b of the spacer wall in the present application. As a result, Minako et al do not disclose "the spacer wall having at least one liquid crystal injected opening and at least one spacer block positioned in the liquid crystal injected opening" which is disclosed in Claim 1 of the present  
10 application. Furthermore, Minako et al do not disclose "a spacer wall positioned on the second substrate and between the sealant and the active region for enclosing the active region" defined in Claim 15 of the present application.

Accordingly, the applicant asserts that all the limitations recited in Claims 1 and  
15 15 are not taught or suggested by the combined reference teachings. Therefore, Claims 1 and 15 should be patentable in comparison with the combination of Kim, Minako and the admission. Since Claims 4-5 and 25 are dependent upon Claim 1, and Claims 18-19 and 33 are dependent upon Claim 15, they should be allowed if Claim 1 and Claim 15 are allowed. Reconsideration of Claims 4-5, 18-19, 25 and 33 are  
20 respectfully requested.

### **3. Rejection of Claims 3, 7 and 17:**

Claims 3, 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Admission and Minako, and further in view of Jung et al for  
25 reasons of records, as cited in pages 5-6 in the above-identified Office action.

### **Response:**

Examiner rejects Claims 3, 7 and 17 as being unpatentable over Kim et al in view of Admission and Minako, and further in view of Jung et al. However, Applicant  
30 submits that Kim, Admission, Minako and Jung do not disclose the thin film layer

patterned corresponding to the peripheral region. According to paragraph [0040] of Jung's disclosure, Jung et al merely disclose that "an *anti-reflection film* (not shown) for preventing a reaction between the sealant 90 and the liquid crystal material *is formed on the sealant 90*." That is to say, Jung et al do not disclose a thin film layer  
5 patterned corresponding to the peripheral region.

Further referring to the independent Claims 1, 6 and 15, Jung et al do not disclose "the spacer wall having at least one liquid crystal injected opening and at least one spacer block positioned in the liquid crystal injected opening" which is disclosed in  
10 Claim 1, do not disclose "a thin film layer patterned corresponding to the peripheral region and positioned under the spacer wall, wherein both the sealant and the spacer wall are located on the thin film layer" which is disclosed in Claim 6, and do not disclose "a spacer wall positioned on the second substrate and between the sealant and the active region for enclosing the active region" which is disclosed in Claim 15. As a  
15 result, the combined teachings do not specifically disclose all the limitations recited in Claims 1, 6 or 15, and Claims 1, 6 and 15 should be patentable under 35 U.S.C. 103(a).

Therefore, applicant believes that Claims 3, 7 and 17 should be allowable in  
20 comparison with the combination of the cited references. Reconsideration of Claims 3, 7 and 17 is respectfully requested.

#### **4. Rejections of Claims 22, 23, 26, 31 and 34:**

Claims 22, 23, 26, 31 and 34 are rejected under 35 U.S.C. 103(a) as being  
25 unpatentable over Kim et al in view of Admission, and further in view of Chung et al for reasons of records, as cited in pages 6-7 in the above-identified Office action.

#### **Response:**

Referring to the independent Claims 1, 6 and 15, Chung et al do not disclose "the  
30 spacer wall having at least one liquid crystal injected opening and at least one



5 spacer block positioned in the liquid crystal injected opening” which is disclosed in Claim 1, do not disclose “a thin film layer patterned corresponding to the peripheral region and positioned under the spacer wall, wherein both the sealant and the spacer wall are located on the thin film layer” which is disclosed in Claim 6, and do not disclose “a spacer wall positioned on the second substrate and between the sealant and the active region for enclosing the active region” which is disclosed in Claim 15. Therefore, applications believe Claims 1, 6 and 15 should be allowable in comparison with the combination of the cited references.

10 As Claims 22-23 are dependent upon Claim 1, Claim 26 is dependent upon Claim 6, and Claims 31 and 34 are dependent upon Claim 15, they should be allowed if Claims 1, 6 and 15 are allowed. Reconsideration of Claims 22, 23, 26, 31 and 34 is respectfully requested.

15 **5. Rejections of Claim 35:**

Claims 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al in view of Admission and Minako, and further in view of Nakahara et al for reasons of records, as cited in page 7 in the above-identified Office action.

20 **Response:**

25 The Examiner asserts that Nakahara et al disclose alignment films 13 and 23 on the peripheral region, and that the third alignment layer and the fourth alignment layer are ordinary skill in the art. However, as shown in FIG. 11 of Nakahara’s disclosure, Nakahara et al fault to disclosure four alignment layers in one liquid crystal display panel, while four alignment layers are described in one liquid crystal display panel according to Claim 35 of the present application.

30 Further referring to the independent Claim 1, Nakahara et al do not disclose “the spacer wall having at least one liquid crystal injected opening and at least one spacer block positioned in the liquid crystal injected opening” which is disclosed in Claim

1. As a result, the combined teachings do not specifically disclose all the limitations recited in Claim 35, and Claim 35 should be patentable under 35 U.S.C. 103(a).

**Reconsideration of Claim 35 is respectfully requested.**

5     **6. New claims introduction:**

          In order to emphasize that the liquid crystal layer is injected into the space between the first substrate, the second substrate, and the sealant, claims 37-39 are added. Claims 37-39 show that the sealant further comprises at least one liquid crystal injected opening. Thus, the liquid crystal display panel of claim 1 and claim 6 and the  
10    liquid crystal on silicon display panel of claim 15 are obviously different from the liquid crystal display fabricated by a liquid crystal dropping method.

          The newly added claims can be fully supported by the specification, Fig. 3, Fig. 5, Fig. 6, Fig. 8, and Fig. 10 of the present application, and applicant believes that the  
15    new claims are not disclosed in the cited references. Therefore, acceptation and consideration of claims 37-39 are politely requested.

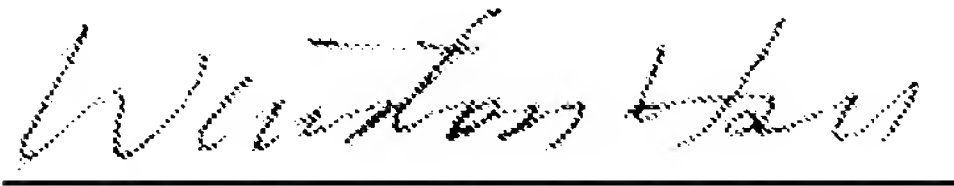
          Applicant respectfully requests that a timely Notice of Allowance be issued in  
20    this case.

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Sincerely yours,



Date: 09/27/2007

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